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226 796 the abundance of the fish. The people are described by Garcia as going to the shore after the fête on the feast place. In other words, it is evident that the purpose of the rite on the feast place was to raise the *tapu* on the fish—after the rite was completed the fish could be distributed. The order in which Garcia describes events is this: first, the general *tapu* during the fishing, demanding silence and inactivity on the part of the whole tribe; secondly, the assembly, drumming, chanting, and dancing on the feast place; thirdly, the distribution of the fish on the seashore; and finally, all the different families taking home their share to be eaten at their houses.

A returning fishing party or expedition sometimes distributes its catch at the shore and at other times the distribution was more formally made at the chief's feast place. Mr. Linton was told that people at Pua Ma'u would come with gifts to the shore to meet the fishermen. This custom has been described to me also by natives at Atu Ona and at Taiohae. (See the Legend of Pepeiu.) On the other hand it is known that large catches were frequently distributed from the chief's feast place. It is probable that the manner of the distribution varied in different valleys, and it seems likely that in the same valley smaller fishing parties might barter their catch on the seashore, whereas the more important deep-sea fishing expeditions sent out by the chief, particularly that at the opening of the season when the *tapu* was removed, would carry their catch or the greater part of it to the *tohua*, where there would be a feast and distribution. Melville (23, p. 234) describes distribution of fish in Taipi-vai as follows:

> As soon as the approach of the party was announced, there was a general rush of the men towards the beach; some of them remaining, however, about the Ti, in order to get matters in readiness for the reception of the fish, which were brought to the Taboo groves in immense packages of leaves, each one of them being suspended from a pole carried on the shoulders of two men.
>
> I was present at the Ti on one of these occasions, and the sight was most interesting. After all the packages had arrived, they were laid in a row under the verandah of the building, and opened. The fish were all quite small, generally about the size of a herring, and of every variety of color. About one-eighth of the whole being reserved for the use of the Ti itself, the remainder was divided into numerous small packages, which were immediately dispatched in every direction to the remotest part of the valley. Arrived at their destination, they were in turn portioned out, and equally distributed among the various houses of each particular district. The fish were under a strict Taboo, until the distribution was completed, which seemed to be effected in the most impartial manner. By the operation of this system every man, woman, and child in the vale, were at one and the same time partaking of this favorite article of food.

Fishing Paraphernalia and Methods

227 Before proceeding to describe in detail methods of fishing, it may be well to summarize briefly. Nets of all kinds were used—large ones handled

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by four canoes for deep-sea fishing and various types and sizes for different kinds of fishing, grading down from these large nets to very small ones for hand fishing used with or without a handle. Lines for making nets and for fishing with a hook were made either of coconut fiber plaited, of fau bark, or of a combination of the two. Fine cord for fish lines was made of the fibers of the pineapple leaf. Hooks were made of pearl shell and of human bone. Simple hooks and also the complex type were used for bonito, bamboo being used for the rods. For spearing fish there was a lance with a single point (*mata ve'o ika*), and a lance with many barbed points (*mata va'u*) (8). Porter (24, p. 113) describes both bone and wood points on fishing harpoons. 227●

One of my best informed native co-workers insisted that fishing with rods (*te ika hi*), hooks, and lines (*te ika hahe*), or with spears (*te ika ve'o*) and torches was never practiced in ancient times. I am convinced, however, from the other evidence that hooks and lines and spears were used anciently. Porter describing the implements in use at the time of his visit, says: "Those for fishing consist of the net, bone and wooden harpoons, the rod and line and fish-hooks formed of mother-of-pearl." As to torch-light fishing, it is probable that this was dependent on safety. It would always have been too dangerous in certain bays, where the fishers would have been to obvious bait for enemy canoes seeking victims for sacrifice.

Snares were used for catching eels and shrimps, and fish traps were made of fau bark, but of what form is unknown. Fish were poisoned in rock pools by the sea and in the region of the rock shelves within the bays. So far as I know, fish ponds were never constructed—there were few places in the Marquesas where it would have been possible. Torches for night fishing were made of bamboo, of sugar cane, and of a reedlike grass (*kakao*) (15, p. 54). Fish in pools by the sea were sometimes killed with small bows (*pana*) and bamboo darts, or with sling stones. An unusual method of fishing consisted in swimming, drawing a hook and line in tow. For the private fishing small individual canoes were used, but for the deep-sea fishing there were special craft, large and small. Porter (24), p. 102) describes fishing canoes as follows: 227 501

> Their fishing canoes are vessels of a larger and fuller construction, many of them being six feet in width, and of an equal depth. They are managed with paddles more resembling an oar, and are, in some measure, used as such, but in a perpendicular position, the fulcrum resting on the outriggers projecting from each side. With those they proceed to the small bays on the coast, where they fish with the scoop net, and with the hook and line. They have also smaller canoes, which are commonly nothing more than the hollow keels of the large ones, after the upper works are taken off; these are furnished with outriggers, and are used for fishing about the harbour.

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

227 The practice in the Marquesas of a method of fishing common in the Tuamotus and Tahiti is indicated by the translation of the words *auo'a, kauo'a* as given by Dordillon (8)—that is, the practice of hemming in fish in shallow water by means of long braids of leaves. This method must have been little used in the Marquesas on account of the rare occurrence of reefs and shallow water.

227 286 The process of making the cord for fishing nets was called *fi'o na aho*. For the work a special shelter (*oho au*) was erected and consecrated. This was built in the form of the regular dwelling with a sloping rear wall ascending direct to the ridge, closed ends, and the lower half of the front fishermen. According to Dordillon (9) the fishermen had to fast three days before making the net. The manufacture of the net was accomplished in a consecrated shelter (*oho au*) by the seashore within the sacred precincts of the fishermen. The second netful taken in the deep-sea fishing with the new net was always given to the women who made the cord.

A festival (*ko'ina upena*) was celebrated at the seashore upon the completion of a new net. Food was prepared up the valley and carried down to the fishermen's precincts. All the tribe attended and feasted, but only those who were free from *tapu* were allowed to enter the precincts and the house where the net was kept.

Deep-Sea Fishing at Atu Ona

226 Deep-sea fishing and the net with which it was done were alike called *upena*. At Atu Ona, the evening before the men went fishing, the *pu'e* was always intoned in the ceremonial house by the *ava-ika-nui*. There were many images (*tiki*) of different fishing gods used, all the gods thus associated with deep-sea fishing being known by the collective term, *e au upena*.

[778] The *tiki* were small stone figures, some of them, if not all, carved roughly in the form of a fish. One *tiki* was used at a time, the others being kept buried in the ground. When a fishing venture had been unsuccessful during the time that a certain *tiki* had been presiding in the shrine, this image would be buried in the ground and another placed in its stead. The new image would retain the place as long as the fishermen's luck showed his *mana* to be efficacious. It is said that no fish was offered to the *tiki* here. At Ta'a Oa, on the other hand, I was told that the first fish were always offered to the god. It is probable that part of the first netful, which was reserved for the fishermen, was presented by them to their god.

The net was regarded as extremely sacred (*tapu oko*). It was square, from thirty to thirty-six feet across, and had on each side a strip of ironwood, to each end of which a line was attached. In the center of the net was a round basket-like section, like the crown of a hat, about eight feet in dia-

[Text continues on p. 172. - Analyst]

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227

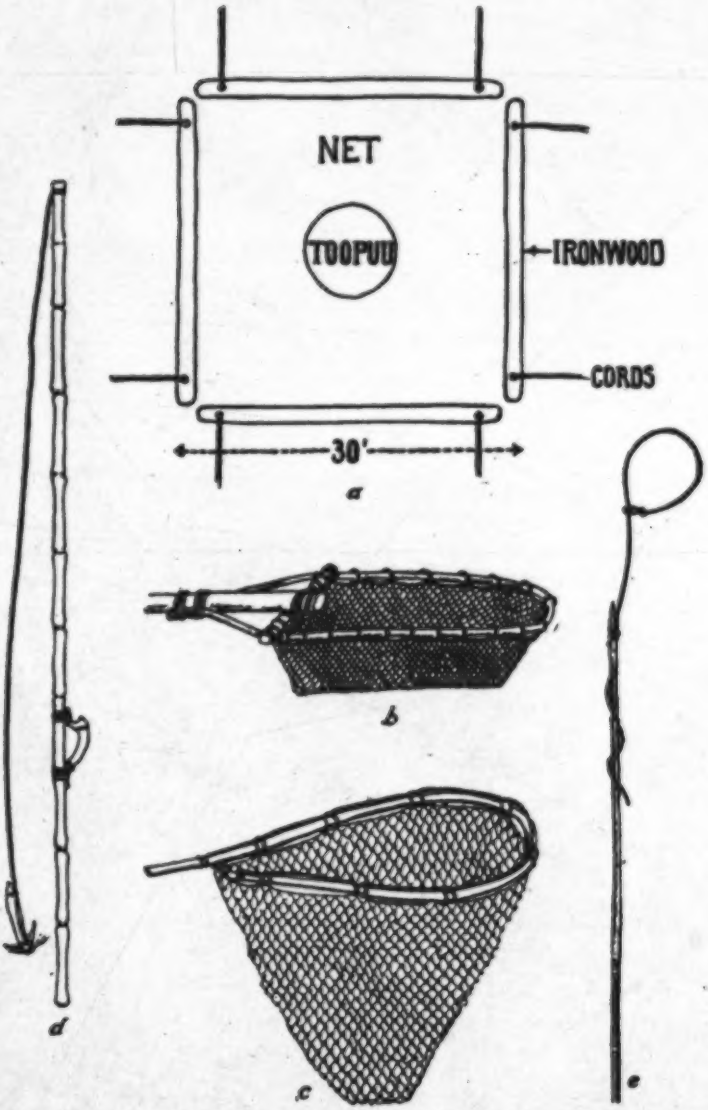

FIGURE 18.—Fishing apparatus: *a*, deep sea net; *b*, pole net; *c*, hand net; *d*, bonito rod; *e*, snare.

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expect to find many specimens, whereas perforated stone disks are so rare that most natives had never seen one and could offer no suggestion as to their use. The actual specimens are, moreover, poorly adapted for this purpose as No. 2 is quite asymmetrical while the perforation of No. 1 is much too narrow to admit a drill shaft. Perforated disks of this sort are also found in Hawaii as a rare form.

SINKERS

Stone sinkers were used with at least one of the Marquesan types of fish-net, but specimens deliberately shaped for this purpose are extremely rare. Only one object which could be identified as a net sinker was seen. This was a rather crudely finished specimen of coarse lava having an almost globular body terminating in a short knob with a somewhat expanded outer end, in which a shallow transverse groove was pecked. It was about 2¾ inches long and 1¾ inches in diameter. The neck and the single groove across the center of the top are said to have served for the attachment of cords. According to the owner of this specimen, an unusually intelligent native, sinkers of this type were attached to the lower edge of the long seins used in turtle fishing.

A second specimen, clearly related to this form but of such fine finish that its purpose was probably ceremonial rather than utilitarian, was seen in a collection in Taiohae, Nuku Hiva. The body was between 3 and 4 inches in diameter and almost perfectly spherical. The neck was very short and oval in cross section and each of the two parts into which the end was divided had been carved into a flat tiki face directed upward. The specimen appeared to be made of phonolite or some other equally hard and fine grained stone and had been carefully polished on all surfaces. Its heavy patination indicated a considerable age. This sinker, if it is a sinker, bears a remarkable resemblance to certain specimens found near the East Cape of New Zealand, which are identical in outline and in having two heads carved upon the projections at the top. A crudely made object of the same type, now in the Museum of the University of Pennsylvania, is shown in Plate XLIX, *A-B*. The New Zealand sinkers differ from the Marquesan examples in having the body of the sinker covered with elaborate carving.

A stone object in the collection of Mme. Maleius, in Ta'aoa Hiva Oa, can probably be classed as a sinker. It is oval in outline, with one flat and one convex side. Down the center of the convex side a groove has been pecked, giving the whole much the form of a coffee bean. The material is a rather coarse lava, and the whole finish is rough. As far as known no other object of this sort has been reported from the Marquesas and the owner, who was thoroughly conversant with native matters, could offer no suggestion as to its use.

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227 171 In Hawaii artifacts in every way identical with this object are quite common and were used as sinkers for squid hooks. The Marquesas was an important point of call for whalers in early days, and the first missionaries to establish themselves in the group were Hawaiians, so it is probable that this object was imported from that group during the historic period.

ANCHORS

501 Native accounts of the ancient fishing methods mention the use of anchors, but it seems probable that these were simply rough stones. A single worked specimen was seen in Taiohae, Nuka Hiva. It consisted of a conical stone of oval cross section about 10 inches high and 7 inches in diameter, through the upper end of which a hole about ¼ of an inch in diameter had been pierced. The natives were unable to identify this specimen, and as it was found among the debris of a trader's store it may be either of European workmanship or due to European influence.

PIPES

276 324 [539] The use of tobacco in the Marquesas is almost certainly post-European, but the plant was cultivated there very early in the historic period. Clay pipes in burial caves that contain no other evidences of European contact indicate that they were among the earliest trade objects and most of the stone pipes appear to have been made at a time when the native culture had undergone little, if any, change. The clay pipes referred to are clearly the prototype from which the stone pipes were evolved, but the Marquesan pipe makers were no slavish imitators and their work shows considerable originality.

The material used was a rather soft, even-textured volcanic rock, and the shaping was probably done with metal tools, although the fine finish of most of the specimens makes it impossible to say whether such tools were always used. The bowl form was like that of the European clay pipes of the early nineteenth century, but the other features vary greatly. The simplest form is shown on Plate XLIX, *C*. It consists of a simple bowl 1⅜ inches long and about ¼ of an inch wide, with a hole pierced in one side for the stem. The bottom of the bowl is decorated with a short cylindrical knob.

A more elaborate specimen, seen in Hanahehe, Hiva Oa, consisted of a similar bowl, without the knob, which had at the bottom two projections 3/16 of an inch long, placed directly opposite each other. Both these projections were drilled to take stems. The bowl was covered with lightly incised designs which had been [531] almost obliterated by handling. The use of multiple stems appears to have been rather common and according to reliable informants some specimens had as many as four.

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283 The cords of the large fish net (*upena*) were dyed red with earth
[386] called *ka'aea* which was worked into them in the course of the rolling, but apparently there was no decorative intent. Colors other than red and black do not seem to have been used. The method in dyeing the cord black was not ascertained, but it was probably the same as that used in dyeing sennit black.

[824] Next to the fau bark the material in most common use is coconut fiber. This fiber is of two kinds, that from the husk, which is short and rather stiff, and that from the leaf sheath, which is longer and more flexible, but lacks the strength of the husk fiber. Husk fiber is used for all ordinary cordage and is obtained by beating fresh moist coconut husks with stones until the tissues have been crushed and the fibers can be separated by hand. In the leaf sheath the fibers are arranged in thin layers which can easily be separated with the [227] fingers. Sheath fiber is said to have been employed for the large nets used in turtle fishing, and for the lashings of some chiefs' houses and sacred structures. It was also occasionally used for the thin cord employed in *pavahina* and as [534] strings for musical bows.

The heavier grades of coconut fiber cord are usually plaited, but the smallest cord is twisted from two strands while a somewhat heavier twisted cord, in a single strand, is used in one form of ornamental plaiting. Ordinary cord (Pl. LXV, *D* 1) was made by plaiting three untwisted strands of fiber, additional fibers being worked in as the plaiting progressed to keep the strands of uniform size.

The plaiter seated himself and, holding the end of the cord with his toes, plaited upward and away from the body. The ornamental cords used for *hue* nets and drum lashings were plaited from many strands—five, six, eight, and from nine to fifteen inclusive. They appear to have been always in the form of flat ribbons, and it is rather curious that no square four-strand coconut fiber plaits were seen although this technique was employed for some bark ropes.

Two forms of plaiting were used, one of which gave a broad thin band having the appearance of twilled fabric (Pl. LXV, *D*, 3), while in the other the strands ran in diagonally to the center of the band, where they passed alternately over and under (Pl. LXV, *D*, 2). The ends of cords made by the first technique were usually finished by short sections made by the second. In large cords made by the second technique two longitudinal strands of twisted fiber were usually used as a base, the strands of the plait passing alternately over and under these in a sort of figure eight motion. In well made cords of this type the base strands were completely covered, and the finished product gave the effect of being made from two cords tightly twisted in opposite directions and placed side by side. Many strand cords made by plaiting together elements which were themselves plaited do not appear to have been used.

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to a great distance. At certain distances from their points they are pierced with holes all around, in order that they may break off, with their own weight, on entering the body, and thus be more difficult to extract."

Desgraz (15, pp. 282-3) mentions a toothed javelin intended to break off in the wound, but the reference is obscure.

There are a few early mentions of lances of *toa* wood used in hand-to-hand fighting, but none of these are explicit enough to merit quotation. Fleurieu (23, p. 132) says that these lances were 9 to 11 feet long. Porter (49, p. 86), that they were 14 feet long. Some of these weapons are said to have been toothed, others plain. A curious form of lance, described by a native informant,

FIGURE 10.—Outline of Marquesan spear.—Drawn by Willowdean C. Handy.

had upon one side three long barbs, cut in one piece with the shaft, which were deeply notched at the base. When an antagonist had been stabbed, the foremost barb would be broken off by a quick twist and left in the wound while the spear, when withdrawn, would still serve for a second and third thrust.

Edge Partington (20, First series, Plate 43) figures two Marquesan spears of unusual form. In these weapons the shaft is made of "a hard red wood" and the heads of a "dark hard wood." The dark wood is almost certainly *toa*.

The shaft of the spear thickens toward the head. The point appears from the drawing to be inserted in a hole in the end of the shaft. There are no indications of lashings or other attachments. The points are rather slender in proportion to the shaft, and are carved with a series of low barbs. In one example the barbs alternate on opposite sides, in the other they are placed in pairs.

Spears with detachable heads, and many pointed spears appear to have been used primarily in fishing. (See p. 397.)

CLUBS

Two varieties of club were used in the Marquesas, one of which, the *uu* (Pl. LXIX, *D*) is a fairly common object in collections. The *uu*, which have frequently been figured and described, show great uniformity in shape and decoration and only minor differences in size and weight. An average specimen has a length of 4 feet, 6 inches with a head 18 inches long.

The handle of the club is round or oval in cross section, with a diameter of about 1¼ inches and a slight lateral flare at the butt. At its upper end the handle gradually flattens and expands laterally to form a peculiarly shaped head of two distinct parts. The lower part is oval in cross section, with sharp edges; at the outer end the head thickens abruptly, having a thickness of 3½ inches at the tip. Near the top of the sharp edged part there are two lateral knobs, each diamond shaped in cross section, with a flat end. The heads of clubs of this

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APPARATUS USED IN FISHING

The Marquesans used four methods of fishing; poisoning, spearing, hook and line fishing, and net fishing. The first of these methods was by far the simplest, but owing to the rugged nature of the coast there were few places in which it could be profitably employed. Three substances were used; the fruit of *Barringtonia speciosa*, the flowers of *Tephrosia piscatoria*, and the leaves and young shoots of *Rhyncosia punctata*. (The use of *Rhyncosia punctata* may be post-European.) The use of the Barringtonia appears to have been limited to small pools in the rock; the fruit was split with a flake knife and rubbed on the rocky sides of the pool, stupifying the fish and causing them to rise to the surface. The Tephroisia and Rhyncosia were used for deep fishing. Holes or small caves among the rocks were located by diving. A quantity of the crushed poison was enclosed in leaves, forming a tight bundle, and with this the fisherman dived, shaking the poison out into the caves. He then returned to the surface and waited for the stupified fish to rise.

FISH SPEARS

Large fish, especially the giant ray (*fafaua*) were speared from canoes. The spear was provided with a detachable head to which a line was attached. The head was made of hard wood or bone, its upper end was cut with a jog which rested against a corresponding jog on the end of the shaft, and was attached to the shaft by light lashings. The form of this head can be seen from the accompanying photograph of a specimen in the United States National Museum (Pl. LXX, *C*), although the carved decoration is unusual.

Smaller fish were speared from the rocks with a many-pronged spear. Only a general description of this implement was obtained, but one form called *matavau* (Handy) is said to have had twelve prongs attached to the shaft by three rows of sennit binding. The natives also swam after certain species of fish and speared them in the water, a practice still common in the Society Islands and the Tuamotus.

The spearing of fish from the rocks, and most of the net and hook fishing, were carried on at night by the light of torches. These torches were of three sorts; those made of sugar cane (now obsolete), of bamboo and of coconut fronds.

The sugar cane torches are said to have been made by tying up the leaves of a dry stalk into a compact bundle. Coconut torches were made from a single dry palm frond. Beginning at the tip, the leaflets were directed upward and tied by passing single leaflets around the bundle at intervals of a foot or more. Such a torch when lit at the tip needed no tending, and would burn down gradually with a good light. Bamboo torches were made by crushing a long dry joint of bamboo, care being taken not to break it across. The scattered fibers held the bunch of dry strips together without additional binding. This form is the one most used at present for night fishing from canoes.

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HOOK AND LINE

227 Line fishing was carried on both from the rocks and from canoes. On the southern side of Hiva Oa the natives resorted to submerged banks which lay several miles off shore, and fishing expeditions to the various uninhabited islands of the group were not uncommon. The lines used in deep sea fishing were made either of fau bark or coconut fiber; those used by the women in fishing for small fish were made of pineapple fiber. (See p. 379.)

A variety of hooks were used, their size and material varying with the nature of the fishing. A tiny hook, made from a single thorn from the edge of a pandanus leaf, was used to catch the little fish in the rock pools. Larger hooks were made either from pearl shell or human bone or a combination of the two. Simple shell hooks (Pl. LXXI, *A*, 1) were laboriously ground out of a thick [321] pearl shell. The gleam of the nacre served as a lure and made bait unnecessary. Such hooks were barbless with only slightly recurved points and had much the shape of a "J." The upper end was slightly notched on one or both sides for the attachment of the line. A more elaborate form of one piece hook is shown (Pl. LXXI, *A*, 2). A composite hook made entirely of pearl shell was also employed. (Pl. LXXI, *A*, 3.) One section of this hook corresponds to the one-piece hook except for slightly greater angularity at the bend. The second piece consisted of a simple band of shell of the same width and length as the shank of the first piece. It was bound to the shank with lashings near the top and bottom, the nacre sides of the two pieces being brought together so that the surface of the completed hook was dark except at the barb. The type is represented only by several specimens in the Salem Museum, and no information in regard to it was obtained in the Marquesas. This form seems to be a purely local development and does not occur in other parts of Polynesia.

One-piece hooks of human bone were occasionally used, made from the curve of the lower jaw. Desgraz (15, p. 285) says that they were sharper than the pearl hooks and that their form was angular rather than oval, but as no specimens have been preserved in American collections exact description is impossible.

Composite hooks of shell and human bone were used to troll for bonito. The ancient form with only slight modifications continues in use to the present date. (See Pl. LXXI, *B*.)

The body of a hook of this sort consists of a strip of shell 3½ to 4½ inches long and about ⅝ of an inch wide, pointed at one end and square at the other. In making this strip the pointed end is ground from the valve. Some strips are as much as ¾ of an inch thick at the point while the body of the strip is rarely over 3/16 of an inch thick. The outside of the shell, which forms the bottom of the strip, is ground down until it shows a good luster with a pink, yellow or brown tint. The color is very important, for the strip serves as a lure, and fish refuse to take hooks which are not of the right shade. The thick point of the strip is pierced

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by a single horizontal or vertical hole. The square end has along either side two to six notches which are used to facilitate tight lashing of the bone barb. In the specimens examined there was also a short longitudinal groove in the center of the lower surface which served no practical purpose. The point of the hook is of bone, with a slight but well marked barb just behind the tip on the lower side. The modern Tahitian and Tuamotuan hooks of the same type are usually barbless. The base of the bone point is pierced with two holes. The point is attached to the strip by close lashings, formerly of coconut fiber cord. The ends of the lashings are gathered together into a single strand at the forward end of the bone point and carried along the upper surface of the strip to its pointed end, where they are again attached to it by lashings passed through the hole in the strip. The strand is continued beyond the hook and serves to attach the whole to the line. As the lashings at the inner end of the hook are loose enough to allow some play, the pull of the line comes directly at the base of the bone point. When a fish strikes, the pull is said to draw the point slightly downward and inward, making escape more difficult. This movement, if it occurs at all, is negligible, but the pull coming at this point does serve to tighten the lashings and prevent the point from slipping on the strip. The bark upon the point is of little value, and unless a tight line is kept the fish will escape.

In some hooks of this type a small bunch of pig's hair is tied transversely at the rear end of the strip as an additional lure but this is not a constant feature (Pl. LXXI, *B*, 1). In one specimen collected an additional strip of shell is tied to the upper side of the main strip, probably with the idea of strengthening and weighting the hook.

That sinkers were employed in line fishing is shown by two terms given by Dordillon (17): *pokau*, which is defined as a sinker, and *pokoe*, which is defined as a stone twisted with a fish hook which falls off when the hook sinks to the depths. It seems probable that such sinkers were unworked pebbles.

Dordillon also gives a term (*pe'etai*) which he translates as "to fish with a line while swimming" but this method is now obsolete and no information was obtained in regard to it.

NETS

Net fishing was probably the most important of the Marquesan methods of fishing, and a considerable variety of nets were employed. Very few of these nets have been preserved in collections, however. The only specimens studied were two imperfect fragments in the Bishop Museum. One of these fragments evidently formed part of a small net in the form of a flat pouch or envelope with square corners. (Pl. LXXI, *C*).

The net is woven of two-strand fau bark cord hardly more than 1/32 of an inch in diameter with a very small mesh decreasing in size from 3/8 of an inch at the bottom to 3/16 of an inch at the top. The upper edge is finished with a single strand of twisted fau bark cord about three times as heavy as that forming the body of the net. Immediately below this edging a second cord of the same weight runs around the net, apparently serving as a drawstring. The second fragment is so badly torn that the original form of the net cannot be determined. It is woven of extremely fine two-strand pineapple fiber cord scarcely heavier than carpet thread, with a uniform mesh of 5/8 of an inch. The form of knot employed in both nets may be seen from the accompanying drawing (fig. 11).

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227 The only large nets used in modern times are long seines woven from
286 commercial cotton cord with needles and spacers of ordinary European form. Small circular hoop nets and flying fish nets are also made from cotton cord of

FIGURE 11.—Drawing of knot used in fish nets.

finer grade. A netting needle, similar to that used in Hawaii, is used to make these nets. The work is begun at the top and the envelope is held open, as the work progresses, by pointed strips of bamboo.

226 The natives of Pua Ma'u, Hiva Oa describe ten varieties of net formerly
227 made and used, as follows:

(1) **Timana:** A circular bag net about three feet deep and two feet in diameter woven of either fau bark or coconut fiber. Three ropes were attached to the upper edge of this net at equal intervals, and were woven together into a single strand above its center. A large stone was placed in the bottom as a sinker, and the skin of a squid was attached to the juncture of the ropes as bait. The net was allowed to lie on the bottom for some time, and was then pulled up, the pull of the ropes closing the net and imprisoning any fish within it.

(2) **Maa:** A small dip net with a wooden hoop and pole, usually made of pineapple fiber.

(3) **Ho'ohe to'o:** Same as *maa*, except for the size of the net. *Ho'ohe* is the name of a small fish.

(4) **Paño:** Same as the *ho'ohe to'o*, but of larger mesh and heavier material. This was used to catch crabs on the rocks.

(5) **Paño Mao'o:** Net used for flying fish. There is some doubt whether this form is aboriginal, its introduction is ascribed by some to early Hawaiian missionaries and by others to certain Gilbert Island fishermen who at one time lived in the Marquesas. The modern flying fish net consists of a small bag net woven between the prongs of a forked stick, the outer edge being held taut by the tension of the sticks. Fork and net are attached to the end of a pole 10 to 15 feet in length. This form of net is used only in night fishing from canoes. A large torch is set up in the canoe and the flying fish, attracted by the light, rise to the surface and lie there. The net is slapped down over the fish, which jump upward and become entangled in it. The man using the net stands up, and as the native fishing canoes are extremely narrow and unsteady it is an exciting sport.

(6) **Paño iho:** A net identical with the flying fish net except for its smaller size. It is used for *iho*, a variety of small fish.

(7) A special net was used in the Island of Ua Pou for catching parrot fish. The name of this net had been forgotten. It is said to have been about three feet square. The top was held open by crossed sticks. To the juncture of these sticks a live parrot fish was tethered by the gill. The net was then towed along the rocks where parrot fish were plentiful. According to the natives, each parrot fish has a special area from which it feeds, driving off invaders of the same species, and as soon as the tethered fish entered such a private domain the owner came out and attacked it. The net was then drawn up.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

(8) **Paoa:** A long seine of fau bark. This form could be used at Pua Ma'u, where the beach shelves gradually, but was useless in most localities. One end of the seine was carried out from the beach by men wading or swimming and then brought back to the beach again at a point 75 to 100 yards away. It was then drawn in from both ends, with all the fish within the circle trapped. Such seines were provided with light wood floats along the upper edge and stone sinkers on the bottom.

(9) **Fifi:** Probably the same as the *fi'ifi'i* of Dordillon's Dictionary, which he defines as a small net to catch turtles. According to native informants this was a very strong, large meshed seine made of cord twisted from the fiber of the coconut spathe. It was much wider than the *paoa* but like it was provided with floats and sinkers. The method of use was as follows: The net was set a short distance off any rocky place where the turtles were abundant, its line running more or less parallel to the shore. When in place, a number of men jumped into the water between the net and the shore and frightened the turtles, which, in their efforts to escape, became entangled in the net. As soon as it was evident from the movement of the floats that one had been caught a man dived down, disentangled the turtle, and tied it with fau bark cords, bringing it to the surface and giving it to the men in one of the canoes. The net was not drawn until the fishing was ended. From ten to twenty turtles were sometimes caught in this way in a single day.

(10) **Upena:** By far the most important of the Marquesan net forms. Descriptions obtained by Handy in Atu Ona and by the author in Pua Ma'u differ in some details. According to Pua Ma'u informants the cords composing it were made of fau bark twisted by rolling them on a smooth breadfruit log. According to informants of Atu Ona the cords were composed half of fau bark and half of plaited coconut fiber and were rolled upon the thigh. Both agree that at the time of rolling the cords were rubbed with a red earth called *he'ea* which gave them a permanent color supposed to attract the fish. Ten men with coconut baskets were required to bring the earth for dyeing a single net. The net was woven by women skilled in the art under the direction of a *tuhuna upena*, the labor occupying twenty to thirty women for ten days or more. The work was carried on in a special house and was attended with various religious observances. In Pua Ma'u the *upena* was said to have been circular, about thirty feet across at the rim and decreasing gradually toward the bottom. The whole net was woven in one piece, the mesh being two fingers wide on the sides and somewhat less on the bottom. The upper end was held open by flexible poles or withes of *toa* wood placed about the circumference. The weight of the withes caused the net to sink. The net of Atu Ona is said to have been 30 to 36 feet square, tapering toward the bottom, which was finished by a special piece, "shaped like the crown of a hat," which was called *to'o pu'u*. Along the upper edge of each side was fastened a log of *toa* wood, to either end of which a line was attached.

The method of handling the *upena* appears to have been the same in both localities.

Four canoes set out about four hours before dawn with the net, two of these being large craft which carried eight men each, and two smaller, with a crew of three men each. When the fishing place was reached each of the large canoes put out four anchors, two at the bow and two at the stern. These anchors apparently were placed by the small canoes, one of which, called *vaca iti*, went to the east side while the other, called *vaca vaho*, went to the west. The net was then lowered between the two large canoes. When the net was submerged the *tuhuna* who supervised the fishing dived in and directed whether it was to be moved backward or forward. A skilled *tuhuna* was said to be able to see the fish under water and to hear them when they entered the net. When he considered the net full it was hauled up. The *upena* was drawn several times on a single trip.

Fishing with the *fifi* and *upena*, and probably with the *paoa*, was a community matter, and had associated with it elaborate religious observances.

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522

A

B

C

D

E

STONE ARTIFACTS AND CELTS.

A, TOP VIEW. B, SIDE VIEW OF CARVED BAT STONE (UNIVERSITY MUSEUM, PHILADELPHIA); C, ADZE; D, ADZE TOP, SIDE AND FRONT VIEWS. E, FRAGMENT OF DECORATED ADZE.

7: Linton E-5 (1920-1921) 1923 Oxo Marquesas Oxo

7 Feni plate 10

7. Lesson E-5 (1920-1921) 1923 OX6 Marquesas OX6

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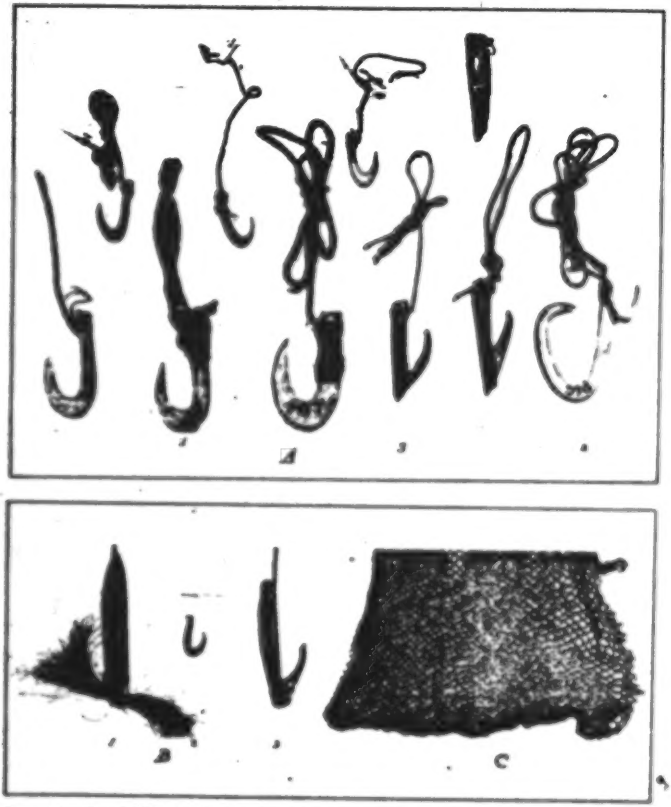

FISHING APPLIANCES: *A*, PEARL SHELL FISH HOOKS (PLATYAX MUSEUM, SAILER); *B*, COMPOSITE HOOKS OF SHELL AND OF BONE AND SHELL; *C*, SMALL FISH NET.

[end plate 32]